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Remarks

Claims 1-39 are presented for examination. Claim 1 has been amended.

This application has been restricted as containing claims directed to "... patentably distinct species of the claimed invention: Species I - one-way valving comprises a flapper element as shown in Figures 1-3, Species II -one-way valving is an annular seal as shown in Figure 4. " Originally filed claims 1, 2, 7-11, and 25-35 have been determined to be generic by the Examiner. None of the generic claims have been allowed in the present Office Action.

Applicants hereby affirm the election made during a telephone conversation with John Wustenberg on 4/2/03 to prosecute the invention of Species 1, Claims [1, 2] 3-5, [7-11] 12, 14, 16, 18-23, [25-35] and 36-39. Claims 6, 13, 15, 17 and 24 have been withdrawn from further consideration by the Examiner as being drawn to a non-elected invention.

Applicants' claims 1, 2, 7-11 and 25-35 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Murray *et al* in view of Maly *et al*. This rejection is respectfully traversed.

The Murray *et al* device is a casing fill apparatus that permits self-filling through radial filling ports in the side of the apparatus. If it is desired to circulate fluids through the bottom of the device, and prevent fluids from escaping through the radial filling ports, it is necessary to shift a closure element that blocks the filling ports and forces all of the forward circulating fluid to exit from the bottom of the device. Once the radial filling ports have been blocked, the self-filling function is no longer operational.

The Maly *et al* device is also a casing fill apparatus that permits self-filling through radial filling ports in the side of the apparatus. If it is desired to circulate fluids to the bottom of the Maly *et al* device, and prevent fluids from escaping through the radial filling ports, it is also necessary to shift a closure element that blocks the filling ports. Additionally, a frangible full flow passage diaphragm in the closure element must be ruptured to provide a substantially unrestricted flow passage through the device. Like the Murray *et al* device, once the radial filling ports of the Maly *et al* device have been blocked, the self filling function is no longer operational.

Applicants' invention is expressly designed to permit forward circulation through the bottom of the cement collar while retaining the ability to resume self-filling through radial filling

ports in the side of the cementing collar. The requirement for forward circulation calls for a substantially unrestricted flow passage through the cementing collar. This limitation has been expressly added to applicants' Claim 1. Applicants have invented an apparatus and method that automatically closes the radial self filling ports as required to force all of the fluid through the bottom of the collar during forward circulation and provides for automatically reopening the self filling ports as required to re-initiate self filling. It is respectfully submitted that neither of the cited references, whether taken alone or in any appropriate combination teaches an apparatus or method having the features defined by applicants' claims.

As now amended, applicants' Claim 1 calls for a cementing collar having first one-way flow valving for admitting fluid into the collar when fluid pressure external to the collar is greater than the internal collar pressure and a second one-way flow valving for allowing fluid to flow from the collar when the internal collar pressure is greater than the external collar pressure with the collar further having a substantially unrestricted flow passage for permitting forward fluid circulation. Applicants' Claim 34 calls for a cementing collar having a ported tubular valve sleeve with a port communicating with a fill port in the collar body when the valve sleeve is in a first position and having a check valve carried by the valve sleeve that admits or prevents flow between the fill ports and the flow passage when the valve sleeve is at the first position. Applicants' Claim 25 calls for a method that permits forward pumping of drilling fluids through an end of a casing string while a one-way entry flow passage in the casing string is closed to fluid flow from the casing string to the wellbore and thereafter flowing fluids from the wellbore into the casing string through the entry flow passage. It is respectfully submitted that neither Murray *et al* nor Maly *et al* teach a device having the recited structure of applicants' Claim 1 and 34 or that is capable of practicing the method of applicants' Claim 25.

The Examiner contends that would have been obvious to use the check valves of Maly *et al* on the apparatus of Murray *et al*. Applicants respectfully submit that the proposed combination would not anticipate applicants' Claims and further that the combination of check valves in a sliding sleeve in an apparatus that can resume self filling after forward circulation has been performed is taught only in applicants' specification and is neither taught, nor even suggested, in either the Murray *et al* or the Maly *et al* references. Applicants further submit that

making the proposed combination would change the operating principle of the Murray *et al* device and would render the resulting structure unsuitable or inoperable for its intended use.

The intended purposes of the Murray *et al* and the Maly *et al* devices do not include the objective of resuming self filling after forward circulation has been initiated, which is the express purpose of applicants' invention. Murray *et al* and Maly *et al* both teach a device intended to permit self filling as pipe is being lowered into the well without regard to any requirement for forward circulation through the bottom of the assembly during this lowering process. It is respectfully submitted that neither of the references makes a suggestion of the combination proposed in rejecting applicants' claims since neither of the devices is concerned with the objective of resuming self-filling after forward circulation had been initiated.

It is also respectfully submitted that the suggested modification of the Murray *et al* device using the teachings of the Maly *et al* Patent changes the principle of operation and produces an apparatus that is inoperative, or unsatisfactory, for the intended use of the Murray *et al* device. Moreover, it is respectfully submitted that if the proposed combination were to be made, the resulting structure would not anticipate applicants' apparatus claims nor would it be capable of performing the method called for in applicants' method claims.

If the Maly *et al* check valves are to be employed on the apparatus of Murray *et al* as suggested, it must first be asked where they are to be placed. Maly *et al* teaches that the valves are to be carried in a sliding sleeve with radial ports that are opened and closed by the valves. Murray *et al* employs a sliding sleeve that has no radial ports. If the Maly *et al* valves were to be used to block the radial filling ports in the Murray *et al* device, it is evident that it would be impossible to shift the Murray *et al* closing sleeve 32 as required to prevent return flow of cement from the annulus into the tubing through the filling ports during the cementing process. If it is proposed to use the entire sliding sleeve assembly of Maly *et al* in the Murray *et al* device, the fill ports in the Murray *et al* device would be permanently closed upon the first forward circulation through the apparatus. This results from the fact that the Maly *et al* assembly employs a flow restriction that produces a pressure differential when forward circulation is initiated that shifts the closure element to a position sealing the self-filling ports. See column 3, line 52 *et seq* of Maly *et al*. While such a construction would meet the purposes of the Murray *et al*

al device, it would not have the ability to renew the self-filling operation as it is taught by applicants.

In order to combine the features of the Murray *et al* teaching with features in Maly *et al* in a manner that would anticipate applicants' claims, in addition to using Maly *et al* valves as suggested, it would be necessary to arrange the sliding sleeve such that the radial filling ports of the apparatus communicate with the ports in the sliding sleeve controlled by the valves without a flow restriction that inhibits forward circulation. It is respectfully submitted that there is no suggestion or teaching of such a combination in either of the cited references and that, in fact, the structure is only taught in applicants' specification.

In view of the foregoing, with respect to the rejection of applicants' claims under 35 U.S.C. §103 based on the combined teachings of Murray *et al* and Maly *et al*, it is respectfully submitted that the proposed combination of prior art teachings does not render applicants' claims unpatentable.

Initially, it is respectfully submitted that the only suggestion for combining the features of the prior art in the manner suggested in the rejection of applicants' claims is derived from applicants' specification and not the prior art. However, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicants' disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP §2143 - §2143.03 for decisions pertinent to each of these criteria.

"To support the conclusion that the claimed invention is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed invention or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references." *Ex parte Clapp*, 227 USPQ 972, 973 (Bd. Pat. App. & Inter. 1985).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 16 USPQ2d at 1432. See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992).

Applicants have also pointed out that the proposed combination of prior art teachings suggested in rejecting applicants' claims would render the individual devices of the references unsuited for their intended usage. If the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

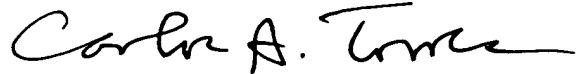
If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959).

It is also noted by applicants that even when the prior art teachings are combined in the manner suggested in rejecting applicants' claims, the resulting combination fails to meet all of the limitations of applicants' claims.

To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). "All words in a claim must be considered in judging the patentability of that claim against the prior art." *In re Wilson*, 424 F.2d 1382, 165 USPQ 494, 496 (CCPA 1970).

In view of the foregoing argument and authority, it is respectfully submitted that applicants' claims are in condition for allowance and such action is earnestly solicited.

Respectfully submitted,



Carlos A. Torres

Date: August 21, 2003
BROWNING BUSHMAN, P.C.
5718 Westheimer, Suite 1800
Houston, Texas 77057
Telephone: (713) 266-5593
Facsimile: (713) 266-5169

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By: 
Martha Jeffers